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FOREWORD

AN ADEQUATE, well-planned program of health, physical education, and recreation in every American school has been one of the teaching profession's brightest and boldest dreams. For the past 40 years these closely related fields have held a position of prominence in every recognized statement of educational aims. In 1918 a committee of the National Education Association prepared the well-known *Cardinal Principles of Secondary Education* in which "health" was named first and "worthy use of leisure" sixth among seven major objectives. The Educational Policies Commission, in its report *The Purposes of Education in American Democracy,* underscored the importance of health in such statements as:

The educated person understands the basic facts concerning health and disease.

The educated person protects his own health and that of his dependents.

The educated person works to improve the health of the community.

Altho much remains to be done, we are moving rapidly and in the right direction. Many school systems have taken major steps toward the eventual realization of good comprehensive programs. Others have made modest, yet important, beginnings.

One significant development in recent years is of paramount importance. All over the United States classroom teachers and school administrators are joining hands with associations of medical specialists, city and county health departments, and the many community organizations in cooperative movements designed to concentrate the strength and resources of all behind common goals. Together they are doing things that neither could do alone. The responsibility for the nation's health and physical well-being is something which the citizens of the entire community must assume—thru the home, the school, the medical profession, and the public health agencies of government. Where they are getting together, progress is being made.

Health, physical education, and recreation are comparatively new to the curriculum. These subjects were not recognized as a major responsibility of the schools until physical examinations in the first World War revealed serious health deficiencies among large numbers of America's young men. Altho no one can minimize the progress that has been made in this comparatively short period of years, it is, nevertheless, true that present programs as a whole still fall short of meeting the basic health needs of many boys and girls. The distance from where we are in health, physical education, and recreation to the place we need to go presents one of the great challenges in education today.

This pioneer study of personnel in city-school systems should be a bench mark for the fields of health and physical education. School systems can compare their own status with typical practice in urban places thruout the nation.

WILLARD E. GIVENS, *Executive Secretary*
National Education Association

Introduction

Data on services and personnel employed in the fields of school health, physical education, and recreation are exceedingly scarce. Nearly all the figures available either are based on a small number of cases or cover a relatively small geographical area. The lack of comprehensive data may be one of the reasons why there is little agreement among school administrators and among specialists in these fields as to what specifically constitutes adequate programs, necessary services, and sufficient personnel.

Because of the scarcity of valid and reliable data and the pressing need for comprehensive, up-to-date information in these fields, the Research Division of the National Education Association with the help and cooperation of the staff of the American Association for Health, Physical Education, and Recreation has undertaken this study of the status of programs, personnel, and cooperative relationships.

The reason for the dearth of information may lie in the fact that health, physical education, and recreation have found their way into the school program fairly recently. In many cities programs of recreation are still in their infancy. In others nothing has been done in this field. Health and physical education in elementary schools are just beginning to be considered seriously in many school systems. Large numbers are just beginning to provide limited programs of health services. Information on new phases of the curriculum usually is slow in being incorporated into official school records and reports. Another factor is the necessary division of responsibility in these fields. Where personnel, services, and money are being provided by three, four, or five separate agencies, it is difficult, and sometimes impossible, to get full details from any one of them.

Source of Information

The information presented in this bulletin was obtained from a questionnaire distributed in the school year 1948-49 to superintendents of schools in cities over 2500 in population. Of the 3796 superintendents who received the inquiry 873, or 23 percent, returned it in such condition that at least part of the information could be interpreted and tabulated with a reasonable degree of accuracy. Certain items, as usual, were not filled in, which explains the difference in the number of replies in the various tables.

Altho the sampling did not have sufficient spread to show a good picture by geographical areas, it was large enough and so distributed as to give useful information by population groupings. For the foregoing reason and because population breakdowns are generally more useful, practically all data are presented in city-size groupings.

The percent of city systems replying was largest in the 100,000 and over and the 30,000 to 99,999 population groups. Altho the percent of replies decreased in the smaller population brackets, a sufficient number was available in each grouping to give a reasonably good picture of some of the differences between cities of varying sizes.

Scope of Bulletin

This bulletin is confined largely to factual information on enrolments, personnel, and services. Limited information is provided for certain other areas including the extent to which school programs are supplemented by nonschool agencies, the composition of health councils, and major points of strength and weakness in present programs.

No attempt is made to evaluate any of the data qualitatively and the facts presented cannot be used as indexes of either good or bad practice. They simply serve as an overview of the present status of selected features. In certain cases it has been possible to measure roughly the degree of adequacy or inadequacy of programs and personnel, using as a basis for comparison the statements of well-informed writers and findings of other studies. City-school systems will find it interesting to compare their programs, personnel, and expenditures with those of other systems of comparable size. In such use of the data, however, the number of cases upon which the data are based should be kept in mind.

It was difficult to devise and administer an instrument that could collect certain types of data with complete objectivity. This is due to the complex and varied ways in which school health, physical education, and recreation are cooperatively administered, the fact that money

is furnished by many nonschool agencies whose budgets are not well known to school superintendents, and the fact that many employees work in two or three fields and are paid thru as many separate funds and agencies.

Organization of Report

The first section of this report, which summarizes the recommendations of some of the outstanding authorities relative to enrolments in and time allowances for courses in health, physical education, and recreation, sets the stage for the second section which shows how many pupils actually are enrolled and how much time is scheduled for these courses in the 873 city-school systems covered in this study. The third and fourth sections are related in a similar manner. Section III summarizes recommendations concerning personnel needed and Section IV shows the number and types employed. The remaining sections bear no such relationship to each other. Each is independent and can stand alone. Where it was possible to find authoritative recommendations or standards dealing with the topic under consideration, these were included as a part of the section.

TABLE 1.—DISTRIBUTION OF REPLIES BY CITY SIZE

Population group	Number of city-school systems[a]	Reports received		Percent distribution by city size	
		Number	Percent	All city-school systems	Those reporting
1	2	3	4	5	6
100,000 and over	92	43	47%	2%	5%
30,000–99,999	268	107	40	7	12
10,000–29,999	778	236	30	21	27
5,000–9,999	1,050	223	21	28	26
2,500–4,999	1,608	264	16	42	30
All groups	3,796	873	23%	100%	100%

[a] Figures in this column exceed the number of cities as reported in the *Sixteenth Census* (1940) for the following reasons: (a) the inclusion of certain New England communities over 2500 in population which prior to 1930 had been classified as urban but which were transferred to rural in 1930; and (b) counting the number of school systems rather than the number of cities where dual systems are in operation. In all such cases, however, the 1940 Census population figures for the various cities rather than the population of the school districts were used in classifying.

A CHILD BORN this year may expect to live to the age of 67 years. After he reaches school age and has safely behind him the risks associated with birth and early infancy, he may expect to reach an age of slightly more than 70 years. This is a priceless gift that scientific progress has bestowed upon him when one compares it with life expectancy of 50 years for the child born in 1900, and of 39 years for the one born a century ago.—Shaffer, Thomas E. "What Health Services Do School-Age Children Need?" *The Child*, August-September, 1950. p. 6.

I. Standards for Enrolment and Time Scheduling

There is no general agreement on the grade levels at which pupils should be enrolled in regular programs of health and physical education or on the amounts of time that should be scheduled for such courses. Many specialists in these fields say all pupils should be enrolled in such courses. Some hold that time allotted to these subjects should equal the time devoted to other major areas of the curriculum, a contention bolstered by the prominent position of health and physical education among the overall objectives of education.

As recreation is difficult to define and practically impossible to evaluate, it is not easy to state the requirements of adequate time for recreation in the school schedule. Generally speaking, recreation consists of the things we do for our own enjoyment. Reading stories may be a recreational experience for Mary, but for John it may be a task. For Joe nothing in the traditional curriculum is recreation. Only basketball, checkers, swimming, and other play activities provide recreation for him. A reasonable rule might be: Every day each pupil is entitled to some time for those things which he enjoys doing.

General goals for scheduling time for health, physical education, and recreation were outlined in the foregoing paragraphs. The following paragraphs indicate rather specifically the recommended minimum requirements at the various grade levels for health instruction and physical education.

Health Instruction

Health instruction in the elementary grades is primarily the responsibility of the classroom teacher with perhaps some help from the nurse, a special teacher, or the health supervisor. The job is largely that of developing habits and attitudes. Instruction is usually informal and the time schedule is flexible, especially in the lower elementary grades. In the upper elementary grades definite blocks of work with some factual information is recommended. The writers in this field generally avoid specifying any definite amount of scheduled time on the elementary level. They use such terms as "wide integration," "special units," and "projects."

The somewhat prevalent practice of scheduling health education in the secondary schools for one hour per week thru all or most of the grades is generally condemned by specialists in health education. Nearly all express the opinion that the job can be done better thru a few compact courses.

In scheduling time for school health courses in the secondary grades, the National Committee on School Health Policies [1] recommends that: "Specific health courses should be provided in secondary schools and should have a minimum time allotment of a daily period for at least one semester during the ninth or tenth grade and a similar amount of time in the eleventh or twelfth grades." Other writers say two semesters at each of these grade levels would be preferable. As the National Committee on School Health Policies was composed of representatives of 15 national organizations interested in education and health, their statement is presumed to be the best consensus.

Physical Education

The National Committee on School Health Policies also recommends in connection with physical education:

> All pupils should be enrolled in physical education classes; those who by reason of illness or disability are unable to participate in the more vigorous forms of activity should be assigned to modified activity or to rest, but with full credit in any case. Where such provisions are made, no pupil need be excused from physical education enrollment. . . .
>
> Pupils in the elementary school should participate daily in a guided program of play and physical education activities. . . .
>
> When they reach junior and senior high school, students should be scheduled for daily periods of physical education, the time for which should be sufficient to allow students to change to appropriate clothing and to have a reasonable period of activity followed by a shower.[2]

Minimum time allotments for physical education are required by law [3] in the elementary grades in at least 25 states, in the junior high grades in 26 states, and in high school in

[1] National Conference for Cooperation in Health Education, National Committee on School Health Policies. *Suggested School Health Policies*. Second edition. Washington, D. C.: National Education Association, 1946. p. 17.

[2] *Ibid.*, p. 33-34.

[3] Voltmer, Edward F., and Esslinger, Arthur A. *Organization and Administration of Physical Education*. Second edition. New York: Appleton-Century-Crofts, 1949. p. 87.

28 states. Weekly time requirements range from 50 to 300 minutes in the elementary school, 50 to 360 minutes in the junior high, and 40 to 360 minutes in the high school. In each of the three levels the median requirement is approximately two hours per week. In some cases, however, the time requirements include health education as well as physical education, and thus the figures given represent a slightly larger amount of time than is required by law for courses in physical education alone.

THE SCHOOL is not the sole agency responsible for the health of the people. The health of the people is determined by many factors, including heredity, home environment, nutrition, personal attitudes, intelligence, information, economic status, accidents, disease, or injury. It would be as unfair to attribute ill health in the nation to failure of the schools as it would be unwarranted to claim all health progress as caused solely by the schools. Yet the schools are a vital factor. In the school is offered unparalleled opportunity for acquiring health knowledge, forming health attitudes, and establishing health practices. Ignorance about health remains widespread, even among otherwise well-informed and well-educated persons. Superstition and misinformation are by no means confined to the illiterate or those with limited education.—American Association of School Administrators. *Health in Schools.* Twentieth Yearbook, 1942. p. 11.

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II. Pupils Enrolled and Time Allowed

In evaluating the data in Figure I and Table 2 it is important to keep in mind the fact that the percent of pupils enrolled is only part of a purely quantitative picture. Another important factor is the amount of time scheduled for the courses in which the pupils are enrolled.

Enrolments in Health and Physical Education

As Table 2 is based upon a total of 5,386,263 boys and girls enrolled in 873 city-school systems, it should be a reasonably reliable index to percentage enrolments in health and physical education courses in all city-school districts thruout the United States. As there was no previous understanding as to specifically what activities constitute recreation, the value of the enrolment percentages in this field is limited. Recess periods, after-school games, school movies, and various club activities were considered as recreation by most of the respondents. However, there were many other scheduled programs which were counted by some superintendents and not by others.

The reports of 825 city-school systems show that the percent of elementary pupils enrolled in health courses is about the same as the percent enrolled in physical education courses. In the junior and senior high schools the percent enrolled in physical education exceeds to a marked degree the percent enrolled in health.

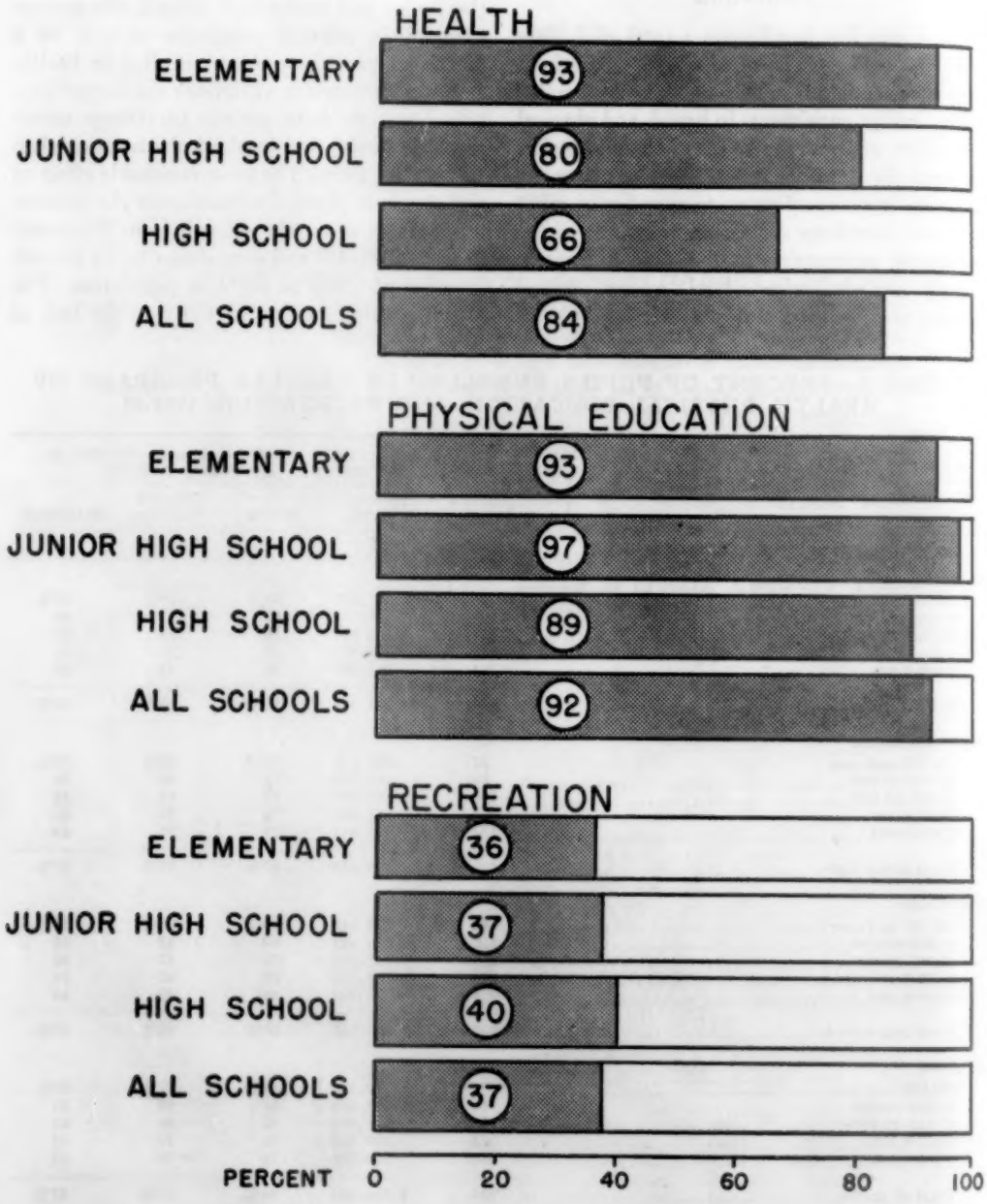
Except for minor variations the larger city-school systems have greater percentage enrolments in health and in physical education than the smaller cities. The most noticeable effect of city size is in physical education in the elementary schools where the range is from 99 percent in cities 100,000 and over down to 73 percent in cities of 2500 to 4999 in population. The difference may be due partially to the lack of

TABLE 2.—PERCENT OF PUPILS ENROLLED IN REGULAR PROGRAMS OF HEALTH, PHYSICAL EDUCATION, AND RECREATION, 1948-49

Grade level and city size	Number of city-school systems reporting	Total pupils enrolled in school systems reporting	Percent of pupils enrolled in regular programs		
			Health	Physical education	Recreation
1	2	3	4	5	6
Elementary					
100,000 and over	43	1,879,437	96%	99%	30%
30,000–99,999	104	620,177	87	92	36
10,000–29,999	221	405,209	89	84	44
5,000–9,999	212	203,961	87	73	52
2,500–4,999	245	165,587	86	73	56
Total elementary	825	3,274,371	93%	93%	36%
Junior high schools					
100,000 and over	37	447,131	80%	98%	34%
30,000–99,999	86	167,786	82	96	36
10,000–29,999	156	109,090	82	94	46
5,000–9,999	127	41,206	77	94	36
2,500–4,999	131	28,611	77	95	49
Total junior high	537	793,824	80%	97%	37%
High schools					
100,000 and over	43	748,143	70%	92%	45%
30,000–99,999	102	216,981	60	83	30
10,000–29,999	214	181,344	61	87	35
5,000–9,999	196	95,296	60	85	34
2,500–4,999	221	76,304	53	87	43
Total high schools	776	1,318,068	66%	89%	40%
All grades					
100,000 and over	43	3,074,711	88%	97%	35%
30,000–99,999	107	1,004,944	81	91	35
10,000–29,999	236	695,643	81	86	42
5,000–9,999	223	340,463	78	79	45
2,500–4,999	264	270,502	76	79	52
Total all grades	873	5,386,263	84%	92%	37%

FIGURE I

PERCENT OF PUPILS IN CITY-SCHOOL SYSTEMS ENROLLED IN REGULAR PROGRAMS OF HEALTH, PHYSICAL EDUCATION, AND RECREATION, 1948-49



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play rooms in the smaller schools where year-round programs can be staged.

Figure I shows that the junior high schools have relatively fewer enrolled in health education than the elementary schools, and the high schools, in turn, have fewer than the junior high schools. In spite of the usual high-school gymnasium, a smaller percent of high-school pupils are enrolled in physical education than elementary-school pupils.

Practically all high schools have some facilities for physical education but the number not enrolled ranged from 8 to 17 percent, with an over-all average of 11 percent. It is assumed, therefore, that more than 1 in every 10 high-school students is excused from physical education because of illness, physical disability, conflict with other subjects, or some other reason.

Reverse Trend in Recreation

The large city dominance in the percentage enrolments in health and physical education is completely reversed in programs of recreation. The figures for all grades at the bottom of Table 2 show a range of from 35 percent in cities of 100,000 and over to 52 percent in cities of 2500 to 4999. Only in the high schools does the percent of pupils in recreation programs in the largest cities exceed the percent in the smallest cities, and even here the trend only partially favors the large cities. While cities of 100,000 population and over have the largest percent of high-school pupils in programs of recreation, cities in the 30,000 to 99,999 bracket have the smallest percent.

Time Scheduled for Health and Physical Education

Columns 3 and 5, Table 3, show the average number of minutes per week that pupils enrolled in regular programs of health and physical education actually devote to these programs. Averages in columns 4 and 6 are based on the total school enrolment instead of on the enrolment in health and physical education programs. The data on time devoted to programs of recreation were not considered sufficiently valid and reliable to merit use in this report.

Totals at the bottom of Table 3 show that health education in many cases is offered only one period per week. At least, the average child enrolled in health programs in these 873 city-school systems devotes only 66 minutes per week to this subject, and, as indicated by column 4, the average based on all pupils enrolled in school is only 55 minutes.

Those enrolled in physical education programs, on the other hand, average two and one-fifth hours per week—twice as much time as they spend in health. Also as evidence of the relatively strong position of physical education in the school program, Table 2 shows that 92 percent of all pupils in school are in physical education courses. The average time per week for junior and senior high-school pupils is slightly higher than the over-all figure listed above; however, it is evident that most of the junior and senior high-school pupils are not scheduled for physical education every day as was recommended by the National Committee on School Health Policies (see page 87).

The fact that a larger percent of the pupils is enrolled in health classes in the large cities than in the small ones was established in Table 2. In Table 3 the reverse is true of average time spent in these health classes. Thruout elementary, junior high, and senior high-school divisions, the average number of minutes in health per pupil participating is larger in the small cities than in the large ones. In junior and senior high schools the average number of minutes per pupil in the smallest school systems is half again as large as the average number of minutes in the largest school systems. In average number of minutes per pupil enrolled in school, as shown in column 4, the smaller school systems still run well ahead of the larger ones.

The trend of average number of minutes devoted to regular programs of physical education follows the same pattern as the enrolment percentages. Not only are there more pupils enrolled in physical education in the larger city-school systems, but those enrolled devote more time to the subject. Consequently, average time, based on all pupils enrolled in school, shows an even greater margin in favor of the larger cities.

TABLE 3.—TIME DEVOTED TO REGULAR PROGRAMS OF HEALTH, PHYSICAL EDUCATION, AND RECREATION, 1948-49

Grade level and city size	Number of city-school systems reporting	Average number of minutes devoted to			
		Health		Physical education	
		Per pupil participating	Per pupil enrolled	Per pupil participating	Per pupil enrolled
1	2	3	4	5	6
Elementary					
100,000 and over	43	58	56	125	124
30,000–99,999	104	67	58	112	103
10,000–29,999	221	74	66	110	92
5,000–9,999	212	80	70	110	80
2,500–4,999	245	80	69	109	80
Total elementary	825	64	59	120	111
Junior high schools					
100,000 and over	37	61	49	142	139
30,000–99,999	86	70	57	142	136
10,000–29,999	156	88	73	127	120
5,000–9,999	127	97	75	134	125
2,500–4,999	131	94	72	137	129
Total junior high	537	70	56	139	135
High schools					
100,000 and over	43	57	40	164	151
30,000–99,999	102	79	47	158	131
10,000–29,999	214	88	54	142	123
5,000–9,999	196	92	55	145	122
2,500–4,999	221	96	50	148	129
Total high schools	776	68	45	158	140
All grades					
100,000 and over	43	59	51	137	133
30,000–99,999	107	69	56	126	115
10,000–29,999	236	79	64	121	105
5,000–9,999	223	85	67	124	97
2,500–4,999	264	84	64	125	99
Total all grades	873	66	55	132	122

TODAY, approximately forty-one million people, particularly in rural areas, live in communities having no health services at all, or providing a mere skeleton organization under a part-time health officer, who, in many instances, is not even a physician.—Hughes, W. L. "Let's Work for Local Health Services." *Journal of Health and Physical Education,* April 1948. p. 255.

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III. Personnel Needed in Health, Physical Education, and Recreation

The number and types of personnel needed in programs of health, physical education, and recreation will naturally depend upon the size of the school system, desired scope of programs, and health services needed. Altho information on minimum essentials is meager, there are a few recommendations that can be used as rough measures of adequacy.

In the field of school health services, authorities agree that these services ". . . should consist of individual health appraisal and guidance, prevention and control of disease, and emergency care." [1] Lacking more comprehensive and specific standards governing the number and types of medical and health specialists who should be employed, the foregoing statement might be used as a rough guide. Schools should have the personnel to provide the aforesaid services. According to Voltmer and Esslinger,[2] "physicians, dentists, and nurses are considered necessary."

Directors and Supervisors

The need for directors, supervisors, or coordinators of health, physical education, and recreation depends largely upon the size of the school system and the nature and scope of the programs. In the smaller systems the superintendent or some member of his professional staff has to accept the responsibility for program direction. In the larger systems the responsibility for directing and supervising the programs and for coordinating the work in these fields with other school activities should be delegated to personnel with special training and experience.

Physicians

There is general agreement that medical examinations should be performed by physicians, and it is recommended that "a minimum of 15-20 minutes of the physician's time be scheduled for the examination of each pupil, including consultation with the pupil or his parents." [3] In 1948 the Joint Committee of the National Education Association and the American Medical Association[4] recommended the spacing of examinations as follows: "preliminary to entrance to kindergarten or first grade, at entrance to fourth grade, at entrance to seventh grade, and at entrance to tenth grade." From this it could be assumed that approximately one-third of the pupils should be examined each year.

It would appear from the foregoing recommendations that one full-time examining physician, with no other duties and responsibilities, could provide adequate examinations for only 20 to 25 pupils per day or for 3500 to 4500 pupils per school year. Even where the physician's services are limited to examinations for one-third of the pupils each year, the ratio of enrolled pupils to doctors probably should not exceed 13,000 to 1. In considering the more comprehensive job of the school doctor, the New York State Department of Education[5] recommends one full-time school physician for the first 3500 children with one additional full-time physician for each additional 4000 to 5000 children.

Dentists

Dentists, another group of specialists generally considered necessary, should be employed in sufficient numbers to provide at least annual and preferably semiannual dental examinations for all pupils.

As evidence of the need in this field, complete dental examinations of 45,083 pupils in the Philadelphia schools in 1945-46[6] revealed that 79 percent had defective teeth.

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[1] Troester, Carl A., and Avery, Elizabeth S. "Legislation for School Health Services." *Journal of the American Association for Health, Physical Education and Recreation* 21: 7; January 1950.

[2] Voltmer, Edward F., and Esslinger, Arthur A. *Organization and Administration of Physical Education.* Second edition. New York: Appleton-Century-Crofts, 1949. p. 138.

[3] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Appraisal of School Children.* Washington, D. C.: National Education Association, 1948. p. 9.

[4] *Ibid.*

[5] University of the State of New York. *Administration and Supervision of School Health Service.* Bulletin No. 1148. Albany, N. Y.: the University, 1938. p. 64.

[6] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Education.* Fourth edition. Washington, D. C.: National Education Association, 1948. p. 39.

Nurses

The employment of the school nurse usually is the first step in building a staff for health services. Recommendations relative to the number needed varies considerably. The Joint Committee on Health Problems in Education[7] says one school nurse can render "fairly satisfactory service to 1500 pupils of elementary-school age, or to 2000 to 2500 high-school students, unless transportation takes up too much time." According to the New York State Department of Education,[8] "One full-time school nurse-teacher can serve 1500 to 2000 children in a city school and from 800 to 1200 in scattered rural areas."

Other Specialists

Little or nothing is available on the number and types of other specialists needed, which might include, in less frequent numbers, dental hygienists, nutritionists, oculists, orthopedists, psychiatrists, psychologists, and others.

Instructors

The number of teachers of health and physical education needed depends largely upon the size of the school or school system. Sufficient personnel should be available in the secondary school to provide every pupil with instruction in these subjects at recommended levels and in classes that are not unreasonably large. Leaders in these fields have frequently expressed the opinion that many classes in health and physical education are unreasonably large. According to the Educational Research Service Circular No. 6,[9] high-school classes in physical education in city-school systems in 1949-50 averaged from 25 to 30 percent larger than classes in most of the other high-school subjects. On the other hand, scientific evidence is lacking on exactly how many can be handled effectively and efficiently in health and physical education classes.

Principles for determining the need for personnel in recreation are nonexistent. In summer programs it is desirable to have some specially trained persons to organize and to furnish over-all direction. During school months most of the responsibility for recreation programs will rest with the regular school staff; however, in the larger systems one or more directors or supervisors may be needed to coordinate recreation with other school activities.

Other early suggestions relative to standards for health personnel may be found in the NEA RESEARCH BULLETIN for April 1944[10] and the 1942 Yearbook of the American Association of School Administrators.[11]

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[7] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *The Nurse in the School.* Washington, D. C.: National Education Association, 1940. p. 36.

[8] University of the State of New York, *op. cit.*, p. 66.

[9] National Education Association, Research Division, and American Association of School Administrators. *Size of Class in 185 Public-School Systems in Cities 30,000 to 100,000 in Population, 1949-50.* Educational Research Service Circular No. 6, 1950. Washington, D. C.: the Association, 1950. p. 7.

[10] National Education Association, Research Division. "Proposals for Public Education in Postwar America." *Research Bulletin* 22:54, April 1944.

[11] American Association of School Administrators. *Health in Schools.* Twentieth Yearbook. Washington, D. C.: the Association, a department of the National Education Association, 1942. 400 p. (Reprint edition.)

IV. Personnel Employed in Health, Physical Education, and Recreation

Information concerning three major types of personnel was requested in the questionnaire. The first type consisted of those charged with administrative or supervisory duties including such positions as directors, supervisors, and coordinators. The second type included nonteaching health specialists other than those charged with administrative or supervisory duties—physicians, dentists, nurses, psychiatrists, and others. The third type included those who teach health and physical education, recreation leaders, and all others who work directly with pupils in classrooms, gymnasiums, and recreation centers.

For each of these groups information was requested on the number employed, time worked, salaries, required training, and major functions. However, because of the mixing of part-time with full-time employees and the difficulty of properly allocating values for those employed in two or three capacities, it was impossible to interpret some of the information with accuracy. It was not possible to use any of the data on training and functions.

Persons employed are counted as *full time* or *part time* and, to facilitate comparison and evaluation, the two are combined under the term, *full-time equivalents*. Part-time employees were converted to *full-time equivalents* by adding the hours worked by all part-time persons and dividing by the average time worked by personnel reported as full-time employees.

The tables and comments in this section are limited entirely to personnel employed by boards of education.

Administrators and Supervisors of School Health Services

This classification includes only those who administer and supervise programs that are largely noninstructional, such as examinations and other special services involving several doctors, dentists, nurses, or other health specialists.

Only in the larger school systems are administrators and supervisors of school health services employed. There were only 45 full-time and 11 part-time persons employed in all the 773 city systems answering this question. Thirty-nine of the full-time and six of the part-time persons were employed in systems in cities of 100,000 or more population. The remaining six full-time and five part-time persons were in cities of 30,000 to 99,999 population.

Administrators or supervisors of health services in cities of 100,000 and over are the rule rather than the exception. Only one of the 45 cities in this group reported no such person employed.

Administrators and Supervisors of Health Education, Physical Education, and Recreation

The figures for this group exclude personnel in the administration and supervision of programs of health services who were considered separately in the preceding section. The group considered here is confined largely to those concerned with programs that are primarily educational or recreational and nonmedical in nature.

The 773 school systems answering this

TABLE 4.—ADMINISTRATORS AND SUPERVISORS OF SCHOOL HEALTH SERVICES, 1948-49

Population group	Number of city-school systems reporting	Total number employed			Number of school systems reporting		Average salary for full-time personnel
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No personnel employed	
1	2	3	4	5	6	7	8
100,000 and over	45	39	6	41.7	39	1	$5,795
30,000–99,999	99	6	5	7.6	6	91	4,055
10,000–29,999	194	0	0	0	0	194	.....
5,000–9,999	204	0	0	0	0	204	.....
2,500–4,999	231	0	0	0	0	231	.....
All groups	773	45	11	49.3	45	721	$5,563

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

question reported the equivalent of 659 full-time directors and supervisors in the fields of health education, physical education, and recreation. Almost 70 percent of those reported were employed in the 144 school systems in the two largest population groups. The percent of cities having the equivalent of one or more full-time directors or supervisors ranges from 97.8 percent in the largest cities down to 9.1 percent in the smallest. While only one city system in the 100,000 and over population group reported no such personnel employed either full time or part time, almost 9 out of every 10 cities in the 2500 to 5000 population group reported none employed.

Like other school personnel, salaries for supervisors and directors in these fields are highest in the largest cities. The average in cities with a population of 100,000 and over exceeds the average in the cities of 2500 to 5000 population by 48 percent.

School Physicians

The figures in Table 6 include specialists as well as general practitioners. Information on the specialists in this group is also set forth separately at the end of this section.

The 773 city-school systems submitting data for this section of the questionnaire reported a total of 74 full-time and 722 part-time school physicians. The two combined are estimated to be equivalent to 256 full-time persons.

The 45 school systems in cities of 100,000 or more people employ 73 percent of all full-time doctors and 59 percent of the equivalent full-time doctors. Sixty percent of these school systems employ at least one full-time physician or the equivalent thereof.

From these data it appears that the majority of the largest city-school systems have made considerable progress in building programs of health services. At least, those employing one full-time doctor or the equivalent have taken a major step in setting up a program.

Not included here are doctors employed by city and county health departments who work partly and, in some cases, entirely in the schools. Altho it was impossible to get an accurate count on such personnel, they are most frequently found in the larger cities.

The smaller school systems reported very few physicians—a total of 5.3 equivalent full-time persons in the 231 systems in cities of 2500 to 4999 and 15.4 in the 204 cities of 5000 to 9999. Also indicative of the scarcity of school physicians in the smaller cities are the percents of small school systems where no physicians, either full time or part time, are employed—78.4 percent of the school systems in the 2500 to 4999 group and 64.7 percent of those in the 5000 to 9999 group. In most of these smaller cities the only physician available to the schools is the city or county health officer whose time permits only a few days' work per year in the schools.

The ratio of school doctors to total pupils enrolled for the school systems in cities of 100,000 or more is approximately 1 to 21,000; for those in cities of 2500 to 4999, 1 to 44,000. The doctors employed by city health departments to work in the schools would reduce to some extent the number of pupils per doctor in the larger cities but would have little effect on

TABLE 5.—ADMINISTRATORS AND SUPERVISORS OF HEALTH EDUCATION, PHYSICAL EDUCATION, AND RECREATION EXCLUSIVE OF HEALTH SERVICES, 1948-49

Population groups	Number of city-school systems reporting	Total number employed			Number of school systems reporting		Percent of school systems reporting		Average salary for full-time personnel
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No personnel employed	One or more full-time equivalents	No personnel employed	
1	2	3	4	5	6	7	8	9	10
100,000 and over..	45	294	10	298.8	44	1	97.8%	2.2%	$5,631
30,000–99,999.....	99	153	4	155.0	82	13	82.8	13.1	4,300
10,000–29,999.....	194	124	12	127.5	94	95	48.5	49.0	4,088
5,000–9,999.....	204	47	6	48.7	40	160	19.6	78.4	3,673
2,500–4,999.....	231	27	5	29.1	21	206	9.1	89.2	3,796
All groups.....	773	645	37	659.1	281	475	36.4%	61.4%	$4,802

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

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the ratio in the smaller cities. In no group of systems, however, does the number of doctors employed come anywhere near the number recommended.

The average salaries of full-time school doctors, shown in column 10 of Table 6, may be one reason for the scarcity of personnel of this type. While comparing favorably with salaries of directors and supervisors of instruction, their incomes fall far below the earnings of the average physician in private practice. The average net income of independent physicians in 1947 was reported to be $11,300,[1] over twice the average for the full-time school physicians reported in Table 6 for the school year 1948-49.

Only two full-time and 43 part-time specialists were reported among the physicians employed by the 773 school systems. Their combined time in the schools equaled only 12 full-time persons and nearly all were employed in large city-school systems. The number and types employed were as follows:

Medical Specialists Employed in 773 City-School Systems, 1948-49

Type	*Full Time*	*Part Time*
Psychiatrist	1	13
Ophthalmologist (eye)	0	11
Eye, ear, nose, and throat	0	3
Orthopedist (correction of deformities)	1	7
Chest	0	1
Roentgenologist (X-ray)	0	1
Cardiologist (heart)	0	1
Dermatologist (skin)	0	1
Otologist (ear)	0	1
Not specified	0	4
Total	2	43

School Dentists

The over-all ratio of school dentists to pupils enrolled based on the reports of 773 city-school systems was one full-time dentist or the equivalent for each 57,000 pupils. The range of ratios was from 1 dentist to 37,500 pupils in cities of 10,000 to 29,999 down to 1 to 330,000 in cities of 2500 to 4999.

Altho even part-time dentists were seldom found in the smallest school systems, the school systems in the middle population group, 10,000 to 29,999, had more dentists for the number of pupils enrolled than the school systems in the two largest population groups. It is doubtful, however, that any group has enough dentists to provide adequate programs.

No full-time dentists were reported by any of the 435 school systems in cities having less than 10,000 population, and the 66 part-time persons reported for these cities equal only 5.3 dentists working full time. Among the systems in cities of 2500 to 4999, only 3.5 percent have even a part-time person.

The fact that 35.6 percent of the school systems in cities of 100,000 and over have at least one full-time dentist, or the equivalent, shows that a significant number of the large systems have made a start on dental health. On the other hand, it should be pointed out that almost one-half of these cities employ no personnel of this type even part time.

Salary data for school dentists are of little value except as an over-all average for the entire group. Because the average is based on only 27 cases, even this is of limited value. The average salary for dentists is less than the average salary for physicians but it compares

[1] Richardson, William Alan. "Physicians' Incomes." *Medical Economics* 26: 63-75; October 1948.

TABLE 6.—SCHOOL PHYSICIANS EMPLOYED BY BOARDS OF EDUCATION, 1948-49

Population groups	Number of city-school systems reporting	Number of physicians employed			Number of school systems reporting		Percent of school systems reporting		Average salary of full-time personnel
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No such personnel employed	One or more full-time equivalents	No such personnel employed	
1	2	3	4	5	6	7	8	9	10
100,000 and over	45	54	251	151.4	27	14	60.0%	31.1%	$5,284
30,000–99,999	99	10	142	39.7	20	46	20.2	46.5	4,893
10,000–29,999	194	8	175	44.2	18	86	9.3	44.3	5,013
5,000–9,999	204	2	94	15.4	2	132	1.0	64.7	4,900
2,500–4,999	231	0	60	5.3	0	181	0	78.4	.....
All groups	773	74	722	256.0	67	459	8.7%	59.4%	$5,192

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

favorably with averages for other school personnel. At the same time, it is low when compared with the earnings of dentists in private practice. The average net income for all dentists in 1948 was reported to be $6912,[2] which is approximately 47 percent higher than the figure reported in Table 7 for full-time school dentists.

School Nurses

A total of 1682 full-time and 74 part-time nurses was reported by the 773 city-school systems submitting information on this part of the questionnaire. Combined they equal 1713.3 nurses working full time, or about two and one-fourth full-time nurses per school system.

Again it is well to remember that these figures do not include nurses working in the schools but employed by nonschool agencies. Such nurses were frequently mentioned but no accurate count was possible. Nurses employed by city and county health departments to work in the schools were reported in the largest numbers in the large cities. In six of the 45 school systems in cities of 100,000 or more, all school nurses were employed and paid by nonschool agencies.

In cities of 100,000 or more the average was between 19 and 20 full-time school nurses per school system. For cities in the 30,000 to 99,999 group the average was three to four per system, and for those in the 10,000 to 29,999 group, one to two per system. School systems in cities with less than 10,000 population averaged less than one full-time nurse per system.

Except for school systems in the 2500 to 4999 population group, the ratio of nurses to pupils seemed to favor the smaller systems; however, it was difficult to estimate the ratios accurately because of the nurses employed by nonschool agencies. Altho their value is limited, the following ratios show the equivalent full-time nurses compared with the number of pupils for whom they provide service:

Ratio of Nurses Employed by Boards of Education to Pupils Enrolled

Population groups	*Number of pupils enrolled per full-time nurse*
100,000 and over	3615
30,000 to 99,999	2563
10,000 to 29,999	2218
5,000 to 9,999	2061
2,500 to 4,999	2527
All groups	2999

This group of specialized health personnel comes closest to meeting recommended goals. Nevertheless, the fact that one-third of the school systems employ no nurses, either full time or part time, is worth mentioning. In many of the smaller cities the schools have access only to part of the time of one city or county health nurse.

From all appearances, nurses' salaries are fairly uniform thruout the country. There was only a few dollars difference between any of the averages in the first four groups. Even the average salary in the 2500 to 4999 population group was only $249 per year less than the highest average recorded.

Dental Hygienists

Respondents to the questionnaire reported the equivalent of 182 full-time dental hygienists, of whom 100 were employed in the 45 school systems in cities of 100,000 or more. Twelve percent of the school systems employed at least one dental hygienist for full- or part-

[2] Weinfeld, William. "Income of Dentists, 1929-48." *Survey of Current Business* 30: 8-16; January 1950.

TABLE 7.—SCHOOL DENTISTS EMPLOYED BY BOARDS OF EDUCATION, 1948-49

Population groups	Number of city-school systems reporting	Number of dentists employed			Number of school systems reporting		Percent of school systems reporting		Average salary of full-time personnel
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No such personnel employed	One or more full-time equivalents	No such personnel employed	
1	2	3	4	5	6	7	8	9	10
100,000 and over	45	22	160	51.8	16	22	35.6%	48.9%	$4,891
30,000–99,999	99	3	62	17.9	10	66	10.1	66.7	3,557
10,000–29,999	194	2	83	15.2	3	132	1.5	68.0	4,312
5,000–9,999	204	0	55	4.6	0	168	0	82.4	.....
2,500–4,999	231	0	11	0.7	0	223	0	96.5	.....
All groups	773	27	371	90.2	29	611	3.8%	79.0%	$4,700

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

TABLE 8.—SCHOOL NURSES EMPLOYED BY BOARDS OF EDUCATION, 1948-49

Population groups	Number of city-school systems reporting	Number of nurses employed			Number of school systems reporting		Percent of school systems reporting		Average salary for full-time nurses
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No nurses employed	One or more full-time equivalents	No nurses employed	
1	2	3	4	5	6	7	8	9	10
100,000 and over..	45	868	3	869.4	37	8	82.2%	17.8%	$2,771
30,000–99,999.....	99	341	7	344.5	78	21	78.8	21.2	2,788
10,000–29,999.....	194	250	17	257.4	153	38	78.9	19.6	2,772
5,000–9,999.....	204	145	10	149.7	134	65	65.7	31.9	2,737
2,500–4,999.....	231	78	37	92.3	78	126	33.8	54.5	2,539
All groups.....	773	1,682	74	1,713.3	480	258	62.1%	33.4%	$2,761

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

TABLE 9.—DENTAL HYGIENISTS AND PSYCHOLOGISTS EMPLOYED BY BOARDS OF EDUCATION, 1948-49

Population groups	Number of city-school systems reporting	Number of dental hygienists employed			Number of school systems reporting equivalent of one or more full-time dental hygienist	Number of psychologists employed			Number of school systems reporting equivalent of one or more full-time psychologist
		Full time	Part time	Full-time equivalents[a]		Full time	Part time	Full-time equivalents	
1	2	3	4	5	6	7	8	9	10
100,000 and over.....	45	85	27	100.2	17	85	0	85.0	15
30,000–99,999.....	99	29	3	30.0	13	10	3	10.4	10
10,000–29,999.....	194	38	6	39.4	33	18	2	18.2	17
5,000–9,999.....	204	8	2	8.6	8	4	2	4.2	4
2,500–4,999.....	231	1	7	3.7	1	0	2	[b]	0
All groups.....	773	161	45	181.9	72	117	9	117.8	46

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.
[b] Less than 0.1 percent.

time work and 9.3 percent employed the equivalent of one or more full-time persons. Thirty-eight percent of the school systems in cities of 100,000 and over employed one or more full-time dental hygienists, but 96.5 percent of the cities of 2500 to 4999 employed no such personnel, part time or full time.

The over-all ratio of dental hygienists to school enrolment was 1 to 28,000. The average salary for full-time employees of this type was $2467.

Psychologists

A total of 117 full-time and nine part-time psychologists was reported. Over two-thirds of the personnel in this field were reported by the school systems in the largest population group.

For the entire group of respondents there was one full-time psychologist for every 43,500 pupils. The average annual salary for full-time personnel was $4358. One-third of the school systems in the group of the largest cities employed at least one full-time psychologist, while in the group of smallest systems 99 percent reported no such personnel.

Other Health Specialists

Five other types of specialized health personnel also were reported. This group included 42 full-time teachers of the blind; 29 full-time and two part-time physiotherapists; 16 full-time and three part-time correctionists of hearing, speech, or sight; seven full-time and two part-time audiometrists (ear testing); and three full-time and seven part-time optometrists. Three-fourths of these persons were employed in school systems in cities of 100,000 and over.

Instructors

Many school systems have integrated programs of health, physical education, and recreation with the same instructors working in two or three of these fields. For this reason it was impossible to identify separately the per-

sonnel employed in each. The number of part-time instructors shown in Table 10 indicates that many teachers of health and physical education also teach one or more subjects in non-related fields. The figures in Table 10 are confined to the regular school term. Information on summer recreation programs is recorded separately.

The great majority of the 773 school systems employ the equivalent of at least one full-time instructor in either health, physical education, recreation, or in some combination of these fields. However, most of those employed in the smaller systems are not working full time in any single field. In the smaller systems one man may coach one or two athletic teams, in addition to teaching physical education on alternate days and meeting one or two health classes each week. Paralleling his activities there may be a woman who teaches physical education, health, and sometimes another subject.

In school systems in cities of 5000 to 9999 there is usually a third person on the staff for these fields. In many cases this is a second man who assumes a large share of the teaching responsibilities, so that the first can devote more time to coaching.

Practically all school systems in the larger cities have the equivalent of at least one full-time instructor in these fields, altho worth noting is the fact that 11.3 percent of the school systems in cities of 2500 to 4999 and 9.8 percent of those in cities of 5000 to 9999 have no personnel either full time or part time in these fields. On the other hand, it should be explained that 26 of the 53 districts reporting no instructors in health, physical education, or recreation are districts containing elementary schools only. The other 27 contained one or more secondary schools.

As with other school personnel, salaries of instructors in these fields are higher in the larger cities.

Personnel in Summer Recreation Programs

A total of 4014 full-time and 78 part-time employees in summer recreation programs, which together are equivalent to 4046 persons working full time for eight to 10 weeks, were reported by the respondents. Altho, again, they were impossible to count, personnel employed by nonschool agencies were numerous. It is possible that in this case they even outnumbered those employed by boards of education. These data, therefore, cannot be used to evaluate the total program of summer recreation.

Of the school systems reporting, 10.7 percent employed at least one full-time summer recreation worker and 87.8 percent employed no personnel of this type.

The boards of education in cities of 100,000 or more employed an average of 77 full-time summer recreation leaders per school system. In fact, these cities employed 85 percent of all such employees reported. In cities of 30,000 to 99,999 the average was about two full-time persons per school system; in cities of 10,000 to 29,999, one and one-half per system. Systems in cities of less than 10,000 averaged less than one full-time worker per system.

The average income for summer workers was $362 for the summer, with the period of employment averaging from eight to 10 weeks.

TABLE 10.—INSTRUCTORS EMPLOYED IN HEALTH, PHYSICAL EDUCATION, AND RECREATION EXCLUSIVE OF SUMMER RECREATION PROGRAMS, 1948-49

Population groups	Number of city-school systems reporting	Number of instructors employed			Percent of school systems reporting		Number of full-time equivalent personnel per school system	Average salary of full-time personnel
		Full time	Part time	Full-time equivalents[a]	One or more full-time equivalents	No such personnel employed[b]		
1	2	3	4	5	6	7	8	9
100,000 and over	45	5,819	4,727	7,006.5	97.8%	0%	155.7	$3,809
30,000–99,999	99	1,346	786	1,472.9	99.0	0	14.9	3,339
10,000–29,999	194	918	689	1,052.1	95.4	3.6	5.4	3,199
5,000–9,999	204	483	300	551.9	88.7	9.8	2.7	3,077
2,500–4,999	231	364	305	465.6	80.5	11.3	2.0	3,005
All groups	773	8,930	6,807	10,549.0	89.8%	6.9%	13.7	$3,584

[a] Full-time personnel, plus: the sum of the hours worked by all part-time personnel divided by the average time worked by those persons reported as full-time personnel.

[b] This column is based on 53 school systems that reported no instructors employed, either full time or part time; however, 26 of these contain no secondary schools.

V. Cooperative Relationships in Providing School Health Services

It was evident from the reports received that much important work in school health is being done by nonschool agencies and organizations. Most important of these nonschool groups are the city and county departments of health which in a few cases provide virtually all the health services available to the schools. Also important are the community's professional societies, service clubs, and organizations for the prevention and control of diseases, which frequently cooperate with the schools thru health councils and by providing various types of volunteer services. This section of the report describes the services offered by these organizations and evaluates, in a limited way, the extent to which they supplement the efforts of the school.

Schoolboards and Health Departments

To portray the extent to which the board of education's program of school health services is supplemented or augmented by the programs of city and county health departments, all respondents were divided into the four groups shown in Table 11. Money spent, personnel employed, and services offered by the health departments were the major factors considered in determining the extent of their help to the schools.

School systems in Group I are those in which the board of education assumes the responsibility for all or nearly all health services. There is little or no help from the health departments in these cities. They spend little or no money for school health and they employ few, if any, persons to work in the schools. Where services are rendered by the city or county health department, they are limited largely to immunization programs.

Group II contains school systems where both the board of education and the health department are providing important services and where functions are shared more or less equally. In some of these systems the medical

TABLE 11.—EXTENT OF COOPERATION BETWEEN SCHOOLBOARDS AND HEALTH DEPARTMENTS IN PROVIDING SCHOOL HEALTH SERVICES, 1948-49

Item	Population groups											
	Over 100,000		30,000–99,999		10,000–29,999		5,000–9,999		2,500–4,999		Total	
	Number of school systems	Percent	Number of school systems	Percent	Number of school systems	Percent	Number of school systems	Percent	Number of school systems	Percent	Number of school systems	Percent
1	2	3	4	5	6	7	8	9	10	11	12	13
Group I												
Board of education provides school health services with little or no help from city or county health department.....	31	68.9%	67	67.7%	155	79.9%	129	63.2%	97	42.0%	479	61.9%
Group II												
Some major school health service provided by both board of education and city or county health department.....	8	17.8	12	12.1	4	2.1	11	5.4	15	6.5	50	6.5
Group III												
City or county health department provides school health services with little or no help from board of education	6	13.3	18	18.2	15	7.7	27	13.2	39	16.9	105	13.6
Group IV												
Little or no school health services are provided by either the board of education or the city or county health department.....	0	0.0	2	2.0	20	10.3	37	18.2	80	34.6	139	18.0
Number of school systems.	45	100.0%	99	100.0%	194	100.0%	204	100.0%	231	100.0%	773	100.0%

program is provided by one agency while the dental program is provided by the other. In other instances the elementary schools are served by one department while the high schools are served by the other.

The school systems in Group III are those in which virtually all health services are provided by the city or county health department with little or no help from the board of education. In some of these systems the health department employs and pays all school nurses, doctors, dentists, and other specialists.

In the school systems in Group IV little or nothing is done by either the board of education or by the department of health. These are the cities in which the program of health services is of little significance.

The primary purpose of Table 11 is not to evaluate the adequacy or inadequacy of the programs but to classify the systems in such a way as to show what agency is providing whatever program exists. No attempt is made to differentiate between the quality of programs offered by any of the cities in Groups I, II, and III. Something definite and of some importance is going on in every school system in each of these groups, altho it may range from very good to very poor even within the same group. Only in Group IV is there any implication of inadequacy.

The board of education is providing all or nearly all of the school health services being offered in 61.9 percent of the school systems. On the other hand, the city or county health department is doing about all that is being done in 13.6 percent of the school systems. Only in cities of 100,000 and over and in cities of 30,000 to 99,999 is there a significant degree of cooperation between the two agencies in sharing the responsibility for school health services.

Cooperation and Help from Other Organizations and Agencies

Tables 12, 13, and 14 give a picture of organizations and agencies other than city and county health departments which give extensive help or unusual cooperation in school health programs. Table 12 enumerates the organizations giving help and Table 13 shows the types of help provided. A list of the most frequently mentioned organizations by types of help given is shown in Table 14.

The reports of 231 city systems furnished the data for Tables 12 and 13. Respondents frequently reported more than one agency cooperating and more than one type of help. For this reason the number of agencies cooperating and the number of ways they help exceed the number of systems reporting. It was impossible in some cases to match the type of help with the organization or agency providing it. Table 14, therefore, is based upon a smaller number of reports.

Professional associations of physicians and dentists, societies for the prevention and treatment of disease, men's service clubs, and organizations of parents and teachers were named most frequently among the agencies giving extensive help in school health. Aside from local boards of education and local health departments, the state department of health was the only public agency mentioned by the respondents. This agency, however, was listed by 30 of the 231 systems answering the question. Medical associations led all others by a considerable margin. Of the men's service clubs, Lions, Kiwanis, and Rotary were listed most frequently.

Assistance in providing for and in making various types of examinations, help for indigent and physically handicapped children, and consultative or advisory services were most numerous of the types of help reported.

Altho the scope of the data in Table 14 is somewhat limited, the figures highlight effectively several important ways in which certain organizations can and do help. Tuberculosis associations in the school systems reporting are doing almost all the work in chest X-rays. Men's service clubs are giving much valuable help in furnishing glasses, hearing aids, and other corrective devices for physically handicapped children. These clubs also are providing money for medical treatment for many children who cannot afford the cost. The medical association is the most important agency helping with health examinations and immunization programs. Dental associations are providing extensive help with dental examinations and in the operation of dental clinics.

The School Health Council

The rapidly broadening scope of health and other closely related programs implies that no single agency or group can do the job alone. With health becoming recognized as a com-

munitywide responsibility, states, counties, cities, and even schools are setting up organizational machinery at the various levels to facilitate cooperation between all agencies and groups. Altho representation of the various groups and patterns of organization vary from one section to another, the goals remain the same—to coordinate planning, to eliminate overlapping and duplication of effort, and to consolidate forces for greater effectiveness.

In rural areas the council should be small and organized along simple lines. According to the Joint Committee on Health Problems in Education,[1] it should be composed of "only the school administrator (either county superintendent, district superintendent, or principal), a few interested teachers and parents, representatives of county medical and dental

[1] National Education Association and American Medical Association, Joint Committee on Health Problems in Education. *Health Education*. Fourth edition. Washington, D. C.: National Education Association, 1948. p. 89-90.

TABLE 12.—ORGANIZATIONS AND AGENCIES OTHER THAN LOCAL HEALTH DEPARTMENTS GIVING EXTENSIVE HELP IN SCHOOL HEALTH, 1948-49

Organizations and agencies	Number of city-school systems in which organizations and agencies are giving extensive help—by population groups					
	100,000 and over	30,000–99,999	10,000–29,999	5,000–9,999	2,500–4,999	Total
1	2	3	4	5	6	7
Medical associations	6	15	16	17	21	75
Tuberculosis societies	13	12	20	5	7	57
Dental associations	7	11	12	14	9	53
Men's service clubs	1	8	8	13	7	37
State departments of health	1	4	9	6	10	30
PTA's	6	2	6	5	10	29
Welfare and charity organizations, foundations, miscellaneous funds	3	3	5	4	3	18
Red Cross	5	1	2	2	5	15
Organizations for correction or prevention of diseases and handicaps	7	1	..	3	1	12
Hospitals	6	2	1	1	1	11
Civic organizations	..	3	..	3	1	7
Women's clubs	2	1	2	..	1	6
Private individuals and corporations	..	2	2	1	1	6
Men's fraternal groups	1	..	1	..	3	5
Other organizations and agencies	3	2	1	1	..	7
Number of systems reporting help from one or more organization or agency	28	39	60	52	52	231

TABLE 13.—TYPES OF HELP EXCLUDING THAT PROVIDED BY LOCAL HEALTH DEPARTMENTS, 1948-49

Type of help	Number of city-school systems reporting each type of help—by population groups					
	100,000 and over	30,000–99,999	10,000–29,999	5,000–9,999	2,500–4,999	Total
1	2	3	4	5	6	7
Chest X-rays	13	13	22	6	7	61
Help for physically handicapped children (glasses, hearing aids, and other correction or treatment)	2	14	4	16	7	43
Physical examinations	3	4	11	12	8	38
Dental examinations	3	6	10	12	4	35
Treatment for indigent children	3	3	10	5	7	28
Consultative or advisory services	7	4	2	5	3	21
Preschool summer roundup	3	3	4	2	7	19
Clinics (medical)	7	3	2	3	3	18
Financial aid	4	4	1	5	4	18
Clinics (dental)	1	..	7	5	4	17
Immunization program	..	2	5	5	3	15
Provide literature, films, instructional material	6	3	..	1	..	10
Provide equipment, supplies, and facilities	4	2	1	1	1	9
Care of athletic teams	..	..	2	1	5	8
Provide milk	1	3	..	2	2	8
Fluorine treatments	..	3	1	2	..	6
Provide personnel	..	2	..	..	3	5
First-aid and home nursing classes	2	1	1	1	..	5
Hot lunches	..	3	..	..	2	5
Not specified	11	7	13	10	19	60

societies, and the county health officer and nurse."

For the large school system, the Joint Committee suggests the following personnel:

The superintendent or his representative
The local health officer
The health coordinator or health counselor
A principal
A physician (preferably a school medical adviser), representative of the local medical society
A nurse (preferably a school nurse)
A dentist (preferably a school dental adviser) representative of the local dental society
A dental hygienist (preferably a school dental hygienist)
A teacher representing the following areas:
Health education
Physical education
Biological or other science
Home economics
Education of the handicapped
Classroom teachers (one with special interest in health problems)
A psychologist (preferably a school psychologist)
A member of the guidance staff interested in health problems

TABLE 14.—ORGANIZATIONS AND AGENCIES GIVING EXTENSIVE HELP IN SCHOOL HEALTH BY TYPES OF HELP, 1948-49

Type of help	Number of city-school systems reporting extensive help from									
	State department of health	Local medical association	Local dental association	Red Cross	TB association	PTA	Men's service clubs	Welfare and charity organizations, foundations, miscellaneous funds	Other organizations for prevention or correction of diseases and handicaps	Hospitals
1	2	3	4	5	6	7	8	9	10	11
Chest X-rays	3	..	..	..	57	..	1	..	..	..
Physical examinations	4	33	..	..	..	..	..	..	..	..
Help for physically handicapped children (glasses, hearing aids, or other correction or treatment)	2	2	1	1	..	2	19	2	5	1
Dental examinations	3	..	31	..	..	..	1	..	..	..
Treatment for indigent children	1	4	2	..	..	5	7	2	1	..
Consultative or advisory services	3	9	3	2	2	..	..	..	2	..
Preschool summer roundup	..	8	4	..	..	7	..	..	..	..
Clinics (medical)	2	5	..	..	..	..	..	1	1	8
Clinics (dental)	1	..	9	1	..	..	4	1	..	..
Immunization program	3	11	..	..	..	..	1	..	..	..
Financial aid	..	..	..	3	..	6	2	1	..	..
Provide literature, films, instructional material	..	1	1	1	5	..	..	..	2	..

TABLE 15.—PERSONNEL ON SCHOOL HEALTH COUNCILS, 1948-49

Types of personnel	Number of city-school systems with each type of personnel—by population groups					
	100,000 or over	30,000–99,999	10,000–29,999	5,000–9,999	2,500–4,999	Total
1	2	3	4	5	6	7
School administrators and supervisors	12	20	28	21	24	105
Nurses	8	18	26	22	23	97
Classroom teachers	10	18	26	17	16	87
Physicians	7	14	19	15	16	71
Representatives of PTA	4	7	7	11	8	37
Dentists	2	2	5	8	3	20
Laymen other than PTA representatives	1	1	4	7	4	17
Students	1	3	3	4	3	14
Miscellaneous health specialists including dental hygienists, speech correctionists, and psychologists	1	3	8	1	..	13
Building custodians	3	3	1	2	2	11
Representatives of various health and medical associations	2	3	2	..	..	7
Representatives of local health department	4	..	..	..	..	4
Board of education members	3	1	..	..	..	4
Representatives of Red Cross	..	..	..	1	..	1
Total number of systems reporting	19	27	39	32	33	150

A nutritionist (preferably a school food service director)
The chief school custodian or supervisor of maintenance and operation
Students (representing the student council or student body)
Parents (representing the parent-teacher association)
Representatives from the community health council (if one exists); or from official, voluntary, and private community health agencies.

Of 765 school systems responding to this part of the questionnaire, 216, or 28 percent, had some type of council or committee on health. Figure II shows that the larger the city in which the school system is located, the more likely it is to have a group of this type. Among the school systems in cities of 100,000 and over, 58.5 percent had a health council, while of those in cities of 2500 to 4999 only 17.6 percent had such an organization.

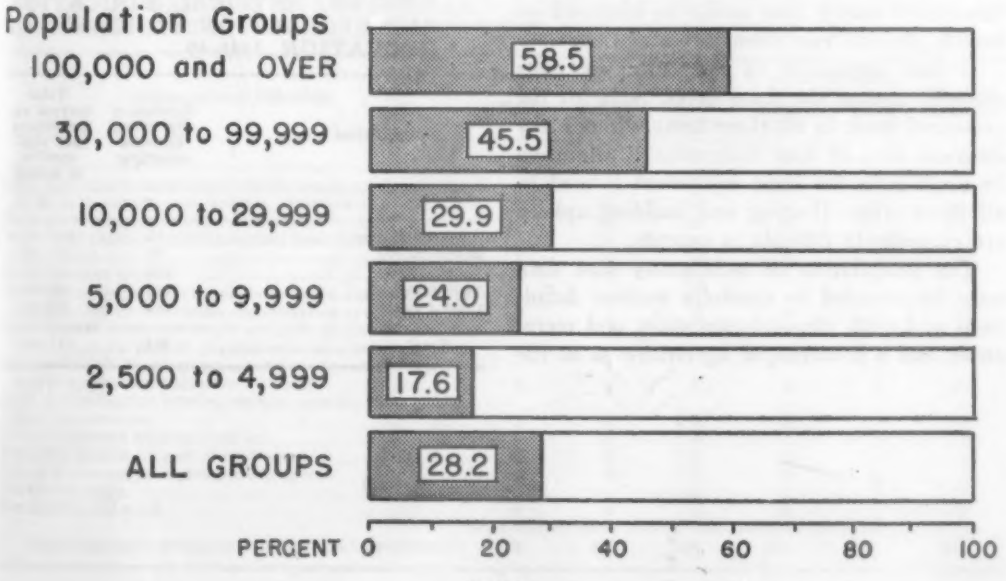
Small systems, usually restricted by inadequate personnel and money, may find in such councils possibilities of expanding their programs and services. They also offer an important source of volunteer help.

The typical school health council in the 150 school systems listing their personnel included at least the superintendent or principal, the head of the physical education or health department, a nurse, a classroom teacher, and a physician. In 37 systems the council included a representative of the PTA, in 20 systems a dentist, and in 17 systems some layman other than a PTA representative. It is interesting to note that the council included a student representative in 14 school systems and the building custodian in 11 instances. Among classroom teacher representatives, physical education and health instructors were named most frequently.

It was impossible to draw clear lines of separation between the classifications "physicians," "representatives of local health department," and "representatives of various health and medical associations." Some of the personnel reported as "physicians" also could have been representatives of the department of health or of the local medical association.

FIGURE II

PERCENT OF CITY-SCHOOL SYSTEMS HAVING SCHOOL HEALTH COUNCILS OR SIMILAR COORDINATING COMMITTEES, 1948-49



VI. Expenditures for Health, Physical Education, and Recreation

The figures reported in Table 16 at best are only rough estimates of expenditures by boards of education for health, physical education, and recreation. This part of the questionnaire failed to produce the type of information desired.

The most serious difficulty in analyzing replies was the lack of consistency and uniformity in the composition of expenditure data. For instance, some included a very rough prorated share of the salaries of all elementary teachers for the time they spend teaching health. Other respondents completely ignored such costs on the elementary level. In some cases major capital outlay items such as the cost of a new gymnasium were included. In others not even the equipment and supplies used in the program appear in the cost figures reported. Another factor which made the reports difficult to compare was the handling of expenditures from gate receipts of athletic events. Some included expenditures from these receipts and some did not. When reported, such money was included sometimes in the cost of physical education and sometimes in recreation.

To arrive at reasonably accurate data on the costs of these phases of education will require careful examination of all major budgetary classifications. General control, personal services, maintenance and operation, fixed charges, and even capital outlay no doubt contain some money that could be allocated to health, physical education, or recreation.

It was impossible to distribute the costs reported among the three fields. Some of the personnel work in all three areas without any clear-cut idea of how their time is allocated. In some cases the same equipment is used in all three areas. Heating and building upkeep are exceedingly difficult to prorate.

The compilation of satisfactory cost data must be preceded by carefully written definitions of health, physical education, and recreation, and a prearranged agreement as to the specific items that should be included under each.

Table 16 was compiled only after careful auditing of all cost data reported. As far as can be determined, it includes only the cost figures that are roughly comparable. All major capital outlay expenditures, where they could be identified, were excluded. Costs paid by nonschool agencies were omitted even tho some of the respondents included such amounts as board expenditures. As most of the school systems did not include prorated shares of the salaries of elementary teachers, these, where found, also were deleted. Exceedingly high and unusually low expenditures were excluded unless some logical reason was given.

Even with the aforesaid limitations, $11.85 is believed to be fairly close to the total current expenditures for health, physical education, and recreation for the average pupil enrolled in the 383 city-school systems. Considering the more extensive programs and the greater variety of services offered in the larger cities, the per-pupil cost in the large school systems was expected to exceed the per-pupil cost in the small ones by a considerable amount. The difference was less than expected. Apparently the difference is offset to some extent by the higher unit cost of instruction required by the smaller classes in small school systems.

TABLE 16.—EXPENDITURES FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION BY BOARDS OF EDUCATION, 1948-49

Population groups	Number of city-school systems reporting	Total current expenditures per pupil enrolled in school
1	2	3
100,000 and over	16	$12.43
30,000–99,999	39	11.20
10,000–29,999	103	10.53
5,000–9,999	111	10.86
2,500–4,999	114	10.51
Total	383	$11.85

VII. Major Obstacles and Difficulties

School superintendents were asked to list, aside from budget limitations, the most serious obstacles and difficulties that must be overcome in order to strengthen their programs in health, physical education, and recreation. The 612 obstacles and difficulties listed by the 492 superintendents responding to this question were tabulated in 13 different categories (see Table 17). As information was not requested for each of the three areas separately, it can be assumed that the replies may refer to any one or all of the fields.

A few of the difficulties appear to be closely related to the lack of money which was ruled out of consideration in the wording of the question. For instance, the obstacle listed by the largest number of school systems (220) was the *lack of adequate physical facilities* including gymnasiums, suitable play areas, and equipment. However, many of these respondents explained that money alone would not solve the problem. Plants were so located that satisfactory building or site expansion was impossible. In many cases business districts had grown up around the school until playground space was not available anywhere near the building. This obstacle was listed by about one-half of all the school systems in cities of 30,000 or more population.

A total of 154, or 31 percent of the superintendents replying, listed the *shortage of adequately trained personnel* as a major difficulty. One might have anticipated that this obstacle would be listed frequently by school systems in the smaller cities; however, the percent of large cities listing this difficulty was as high as the percent of the small ones.

An *inadequate public-relations program* resulting in a lack of public interest was called an important obstacle by 72 school systems. Thirty others named *uncooperative parents* which, to some extent, may be the result of an inadequate public-relations program.

Lack of time was a serious obstacle in 41 cities. In most cases the respondents were referring to the crowded class schedule and the difficulty in budgeting adequate time for pupils in each of the three fields.

Other replies underscored the need for effective coordinating machinery and for more cooperation from doctors, health authorities, and other organizations and agencies interested in health.

Some said that physical education teachers were reluctant to give health the emphasis it deserved, that they tended to overemphasize competitive sports and to neglect health instruction.

TABLE 17.—SERIOUS OBSTACLES AND DIFFICULTIES FACING PROGRAMS OF HEALTH, PHYSICAL EDUCATION, AND RECREATION, 1948-49

Obstacles and difficulties	Number of city-school systems by population group					Total all systems
	100,000 and over	30,000–99,999	10,000–29,999	5,000–9,999	2,500–4,999	
1	2	3	4	5	6	7
Lack of adequate physical facilities (space, gymnasiums, play areas both indoors and outdoors, equipment)	16	29	55	62	56	220
Shortage of adequately trained personnel	11	28	36	36	43	154
Inadequate public-relations program, lack of public interest	5	10	9	25	23	72
Lack of time	7	9	14	3	8	41
Uncooperative parents	1	4	10	7	8	30
Too little cooperation from doctors, health authorities, and other health and recreation organizations	2	2	8	7	9	28
Lack of cooperation and proper attitudes on part of teachers (reluctance on part of physical education teachers to include health in program; overemphasis on competitive sports by physical education teachers)	1	4	4	6	8	23
Lack of coordination between various agencies, departments, and organizations	2	5	9	0	3	19
Lack of inservice training program	0	1	3	1	2	7
Too little interest on part of students	0	0	2	0	4	6
Public overemphasis on competitive sports	2	0	4	0	0	6
Classes too large	0	1	2	1	0	4
Community too small	0	0	0	0	2	2
Total systems reporting one or more obstacle or difficulty	34	66	126	127	139	492

VIII. Summary and Conclusions

Considering the fact that little or nothing was being done by the schools in the fields of health, physical education, and recreation prior to the first World War, the data presented in this study seem to warrant the general conclusion that *extensive progress has been and is still being made.* Many school systems, having developed instructional programs that reached all or nearly all the boys and girls, have gone on with major steps in the field of health services. Except for immunization programs, some school systems, on the other hand, have not gone beyond the bare essentials of instruction.

The study also furnishes proof that *in many respects programs as a whole still fail to measure up to the minimum standards recommended.* Most school administrators and health specialists agree that the problem of *obtaining sufficient revenue is the major obstacle in the path of progress.* Closely related to the financial problem is the need for sufficient personnel to provide greatly needed health services. *In most cases the numbers of doctors, dentists, nurses, and other health specialists employed are not sufficient even to provide adequate examinations.* The best hope of solving these and related problems is to plan and carry out a more vigorous program of public relations to demonstrate to the people the real values of adequate health, physical education, and recreational services.

From percentage enrolments and time allowed it would appear that *health instruction too frequently is playing second fiddle not only to traditional school subjects but also to the closely related fields of physical education and competitive sports.* This role of secondary importance for health instruction is fixed in the minds of many school people as well as in the point of view of the public. Even some teachers of health and physical education look upon their health classes as a relatively unimportant assignment. *As a major goal of education, health deserves a more prominent place in the school program.* One place to begin working on another perspective is in the profession itself.

In many school systems health is still a one-hour-per-week subject, the scheduling of which makes teaching and the maintenance of pupil interest difficult. Health authorities feel that it is difficult to command pupil respect for subjects taught only one hour per week. On the other hand it is becoming more and more difficult to provide adequate time for all subjects that should be taught in the school of today. The recommendation of a smaller number of compact courses meeting daily for an entire semester may be one solution.

This study shows that over 160,000 junior and senior high-school pupils in the school systems reporting are not enrolled in physical education courses. *If we accept the principle that all boys and girls should be in physical education classes, we must agree that too many with doctors' excuses and with the approval of their parents, are avoiding participation. Part of the trouble is the prevalence of a single program with one set of activities for all pupils.* Instructors frequently overlook the physically handicapped and those below average in physical strength who may need this training more than those who are normal. Such teachers are failing to think in terms of individual pupils and to develop varied programs in which all can participate.

The findings of this study suggest the need for more help in school health from other community agencies and for more cooperation between those who do help. Most schools as yet have taken no steps toward setting up the machinery that can make cooperation and coordination of efforts both possible and probable. Altho small school systems probably have more to gain from such an organization than the large school systems, a much larger percent of the small cities do not have health councils. *More school systems of all sizes should give careful consideration to the merits of the school health council.*

Boards of education in purchasing sites for new buildings in years past gave too little thought to expanding school programs and future enrolments. Ample play areas, suitable athletic fields, adequate gymnasiums, and provisions for building expansion received little or no consideration in many cases. *Boards should be certain that past mistakes and oversights are not repeated in their building plans for the future.*

The review of literature in these fields which preceded the compilation of this report emphasized the extreme scarcity of information on what school health costs or ought to cost.

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The attempt to collect comparable data on city-school systems, a minor part of this study, met with disappointing results. This phase of health, physical education, and recreation will need intensive study by itself sometime in the near future.

THE CRUDE death rate for the United States population at large shows a definite decline over the years. The rate . . . has declined from 17.2 per 1,000 population in 1900 to 14.7 in 1910, 13.0 in 1920, 11.3 in 1930, 10.7 in 1940, and 10.6 in 1945 (excluding the Armed Forces overseas). All these are crude death rates. When the figures are adjusted to take into account the increasing proportion of older persons in the population, the reduction in mortality is even greater than indicated by the crude figures. Thus if the death rates are adjusted on the basis of the age distribution of the total population of the United States enumerated in 1940, the death rate for 1900 is 17.8 per 1,000 and the rate in 1945 only 9.6 per 1,000. While reduction in the crude rate is a favorable 38 percent, the death reduction in the adjusted rate is 46 percent!—*Health Education*. Joint Committee on Health Problems in Education of the National Education Association and American Medical Association, Fourth edition, 1948. p. 22.

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"HEALTH ALONE is victory," said Thomas Carlyle. Sickness is defeat and waste. Those who teach health, physical education, and recreation are engaged in conserving and developing a basic wealth. . . .

The school is childhood's highway to health. It has already contributed much to physical welfare and longer life. It can contribute more. The schools should become a stout ally of the attacks now being made against the disease enemies of mankind.—Willard E. Givens in *Our School Studies*, Annual Report of the Profession to the Public, 1948.

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